

IMPROVING SKILLED WORKERS' PERFORMANCE  
IN CONSTRUCTION PROJECTS  
IN NIGERIA

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## DEDICATION

I dedicate this work to my late father; Ashami Zannah and my mother Falmata Alhaji  
Goni and to my entire family members.



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## ABSTRACT

Skilled workers' performance is one of the crucial aspects of labour productivity that requires proper attention for effective projects delivery in the construction industry. The level of skilled workers' low performance has been seen to be a major factor which contributes toward inefficient construction projects productivity. Therefore, the objectives of this research are to identify the causes of low skilled workers' performance in construction projects and to recommend ways to improve skilled workers' performance in construction projects in the Nigeria. The objectives were achieved through a structured quantitative method of questionnaire distributed to 150 respondents from project manager, project engineer, site engineer and site supervision that are active in the Nigerian construction and 111 of the response were collected which was 74% of the response rate. The data were collected and analysed using Statistical Package for Social Science (SPSS) version 22.0. Mean ranking and analysis of variance (ANOVA) were used as tools to analyse the data. The findings shows that; low wages of skilled, lack of sufficient skill acquisition centres and lack of incentive schemes for skilled workers were the most significant causes of low skilled workers' performance in the Nigerian construction industry. Similarly, proper supervision, supply of quality plants and equipment and good wages for skilled workers were the most significant ways to improve skilled workers' performance in the Nigerian construction industry. The homogenous analysis indicates that there are significant differences in perception of respondents on few variables whereas majority of respondents have similarities in most of the variables. The research findings confirmed that, stakeholders in the Nigerian construction industry should strategise on motivation, training and retraining, conducive working condition, supply of quality materials and equipment, and proper site management in order improve skilled workers' performance in Nigerian construction industry.

## ABSTRAK

Prestasi pekerja mahir merupakan salah satu aspek penting dalam produktiviti pekerja yang memerlukan perhatian yang tinggi demi penyampaian projek yang berkesan dalam industri pembinaan. Secara dasarnya, prestasi pekerja mahir yang bertahap rendah telah dilabelkan sebagai salah satu faktor utama yang menyumbang kepada isu kecekapan produktiviti sesebuah projek pembinaan. Oleh itu, objektif-objektif kajian ini adalah untuk mengenalpasti punca-punca yang menyumbang kepada isu prestasi pekerja mahir yang rendah dalam projek pembinaan dan mencadangkan cara-cara untuk penambahbaikan dalam meningkatkan prestasi pekerja mahir dalam projek pembinaan di Nigeria. Objektif-objektif tersebut telah dicapai melalui kaedah kuantitatif itu menggunakan instrumen borang soal selidik yang telah diedarkan kepada 150 pengurus projek, jurutera projek, jurutera tapak dan penyelia tapak yang aktif dalam pembinaan di Nigeria dan sebanyak 111 borang soal selidik (74% daripada kadar tindak balas) yang telah berjaya dikumpulkan semula. Data yang dikumpulkan dianalisis dengan menggunakan *Statistical Package for Social Science (SPSS)* versi 22.0. Kedudukan min dan *analysis of variance (ANOVA)* telah digunakan sebagai alat untuk menganalisis data. Hasil kajian ini menunjukkan bahawa faktor-faktor seperti; gaji rendah, kekurangan pusat kemahiran dan latihan kepada pekerja mahir serta kekurangan insentif untuk pekerja mahir menjadi punca utama kepada isu prestasi pekerja mahir yang bertaraf rendah dalam industri pembinaan di Nigeria. Manakala, pengawasan yang baik, kelengkapan dan peralatan yang berkualiti dan tangga gaji yang baik untuk pekerja mahir adalah merupakan cara-cara yang paling berkesan dalam menambahbaik dan seterusnya meningkatkan prestasi pekerja mahir dalam industri pembinaan di Nigeria. Analisis homogen menunjukkan bahawa terdapat perbezaan signifikan dalam persepsi responden mengenai beberapa pembolehubah manakala majoriti responden mempunyai persamaan dalam kebanyakan pembolehubah. Dapatan kajian juga mengesahkan bahawa, pihak berkepentingan dalam industri pembinaan di Nigeria perlu merangka strategi iaitu memberi motivasi dan latihan semula, keadaan kerja yang kondusif, bekalan peralatan dan kelengkapan yang berkualiti dan pengurusan tapak yang baik agar dapat meningkatkan prestasi pekerja mahir dalam industri pembinaan di Nigeria.

## CONTENTS

<b>TITLE</b>	<b>i</b>
<b>DECLARATION</b>	<b>ii</b>
<b>DEDICATION</b>	<b>iii</b>
<b>ACKNOWLEDGEMENT</b>	<b>iv</b>
<b>ABSTRACT</b>	<b>v</b>
<b>ABSTRAK</b>	<b>vi</b>
<b>CONTENTS</b>	<b>vii</b>
<b>LIST OF TABLE</b>	<b>xiii</b>
<b>LIST OF FIGURES</b>	<b>xiv</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xv</b>
<b>CHAPTER 1 INTRODUCTION</b>	<b>1</b>
1.1 Introduction	1
1.2 Research background	1
1.3 Problem statement	3
1.4 Research questions	5
1.5 Research objectives	6
1.6 Research significance	6
1.7 Research scope	7
1.8 Research methodology	8
1.9 Chapters outline	9
1.10 Summary	11

<b>CHAPTER 2 LITERATURE REVIEW</b>	<b>12</b>
2.1 Introduction	12
2.2 Overview of the Nigerian construction industry	12
2.3 Skilled workers in the construction industry	13
2.3.1 Category of skilled workers in the Nigerian construction industry	14
2.3.1.1 Tile fixers	15
2.3.1.2 Bricklayers	16
2.3.1.3 Plasterers	16
2.3.1.4 Pavers	16
2.3.1.5 Plumbers	17
2.3.1.6 Carpenters	17
2.3.1.7 Metal workers	18
2.3.1.8 Plant operators	18
2.3.1.9 Painters	19
2.3.1.10 Welders	19
2.4 Definition of performance	20
2.4.1 Theory of performance	21
2.4.2 Construction projects performance	23
2.5 Criteria for selection of skilled workers in construction projects	25
2.5.1 Physical strength and stamina	25
2.5.2 Manual dexterity and coordination	26
2.5.3 Knowledge and analytical skills	27
2.5.4 In-depth knowledge in handling tools and equipment	27
2.6 Causes of low skilled workers' performance in construction projects in Nigeria	28
2.6.1 Motivation	30
2.6.1.1 Low wages of skilled workers'	33



PTT AUTHM  
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2.6.1.2 Delay in payment of skilled workers' wage	33
2.6.1.3 Lack of standard salary scale for skilled workers	34
2.6.1.4 Lack of incentive scheme programmes for skilled workers	34
2.6.1.5 Lack of free residential accommodations for skilled workers	35
2.6.1.6 Lack of free food vouchers for skilled workers	35
2.6.1.7 Lack of free transportations for skilled workers	36
2.6.1.8 Lack of free medical facilities for skilled workers	37
2.6.1.9 Lack of opportunity to observe public holidays for skilled workers	37
2.6.1.10 Lack of gifts during festive periods for skilled workers	38
2.6.2 Training and retraining	38
2.5.2.1 Lack of sufficient skill acquisition centres for skilled workers	39
2.6.2.2 Ineffective vocational training programmes for skilled workers	40
2.6.2.3 Lack of issuance of training certificates for skilled workers	40
2.6.3 Conducive working condition	41
2.6.3.1 Vulnerability to safety and health care services on site	42
2.5.3.2 Unfavourable weather condition	42
2.6.4 Quality tools, equipment and plants	43
2.6.4.1 Outdated machines for operation on site	44





2.6.4.2	Shortage of plants and equipment	44
2.6.4.3	Plants malfunction and maintenance on site	45
2.6.5	Site management	45
2.6.5.1	Excessive rework by skilled workers due to design errors	46
2.6.5.2	Overcrowding of skilled workers during project execution	47
2.6.5.3	Change of orders of project executions	47
2.6.5.4	Delay in supply of materials and equipment to site	47
2.6.5.5	Conflicts among skilled workers on site	48
2.7	Ways to improve skilled workers' performance in construction projects in Nigeria	49
2.7.1	Good incentive schemes for skilled workers	51
2.7.2	Payment of skilled workers' wages on time	52
2.7.3	Good wages of skilled workers	52
2.7.4	Free transportation for skilled workers	53
2.7.5	Free food vouchers for skilled workers	53
2.7.6	Free residential accommodations for skilled workers	54
2.7.7	Provision of standard salary scale for skilled workers	54
2.7.8	Giving opportunity for skilled workers to observe public holiday	55
2.7.9	Provision of gifts to skilled workers during festive periods	55
2.7.10	Establishing skill acquisition centres for skilled workers	56



2.7.11	Provision of vocational training programmes where certificates are issued for qualified skilled workers	57
2.7.12	Resolving conflicts and disagreements among skilled workers using construction code of ethics	57
2.7.13	Provision of safety and health care services for skilled workers	58
2.7.14	Supply of quality and modern tools, equipment, machines and plants for skilled workers	59
2.7.15	Supply of materials and equipment on time for skilled workers	59
2.7.16	Avoid overcrowding of skilled workers during project execution	59
2.7.17	Proper supervision of skilled workers to avoid errors of rework	60
2.8	Summary	61
<b>CHAPTER 3 RESEARCH METHODOLOGY</b>		<b>62</b>
3.1	Introduction	62
3.2	Research design	62
3.3	Research approach	63
3.3.1	Questionnaire design	64
3.4	Population and sampling	65
3.5	Data collection method	66
3.5.1	Questionnaire survey	66
3.6	Pilot study	67
3.7	Data analysis	68
3.8	Summary	70



<b>CHAPTER 4 FINDINGS AND DISCUSSIONS</b>	<b>71</b>
4.1 Introduction	71
4.2 Response rate	72
4.3 Results of survey	72
4.3.1 Reliability test	72
4.3.1.1 Demographic information	74
4.3.2.1 Position in organisation	74
4.3.2.2 Working experience	75
4.3.2.3 Role in organisation	76
4.4 Causes of low skilled workers' performance in construction projects in Nigeria	77
4.4.1 Discussion of findings	80
4.5 Ways improve skilled workers' performance in construction projects in Nigeria	83
4.5.1 Discussion of findings	85
4.6 Similarities and differences in perception of respondents using ANOVA	89
4.7 Summary	92
<b>CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS</b>	<b>94</b>
5.1 Introduction	94
5.2 Conclusion	94
5.3 Contributions of research	96
5.3.1 Construction industry	96
5.3.2 Academic environment	96
5.4 Recommendations of research	97
5.5 Limitations of research	97
5.6 Concluding remark	98
<b>REFERENCES</b>	<b>99</b>
<b>APPENDIX A</b>	<b>123</b>
<b>VITA</b>	<b>127</b>

## LIST OF TABLES

2.1	Causes of low skilled workers' performance in construction projects	29
2.2	Skilled workers' demotivational factors in construction projects in Nigeria	31
2.3	Ways to improve skilled workers' performance in construction projects in Nigeria	50
3.1	Relevant situations for different research question strategies	63
3.2	Average index method scale	65
3.3	Population and sample size	66
3.4	Respondents' suggestions based on questionnaire draft	68
4.1	Questionnaire response rates	72
4.2	Cronbach's alpha coefficient	73
4.3	Cronbach's alpha coefficient reliability test for survey	73
4.4	Position in organisation	74
4.5	Working experience	75
4.6	Role in organisation	76
4.7	Average mean index scale	77
4.8	Ranking for causes of low skilled workers' performance in construction projects in Nigeria	78
4.9	Ranking for ways to improve skilled workers' performance in construction projects in Nigeria	83
4.10	ANOVA test for causes of low skilled workers' performance in construction projects based on position in organisation of respondents	90
4.11	ANOVA test for ways to improve skilled workers' performance in construction projects based on working experience of respondents	91

## LIST OF FIGURES

1.1	Research methodology process	9
2.1	Performance advancing through levels	22



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## LIST OF ABBREVIATIONS

ANOVA	-	Analysis of Variance
BNVQ	-	British National Vocational Qualification
CACN	-	Corporate Affairs Commission of Nigeria
EBRD	-	European Branch for Reconstruction Development
GPS	-	Global Positioning System
HSA	-	Hypo Sludge Ash
IFC	-	International Finance Corporation
ITF	-	Industrial Training Fund
KPI	-	Key Performance Indicator
MMC	-	Maiduguri Metropolitan Council
NBTE	-	National Board for Technical Education
NDE	-	National Directorate of Employment
NRC	-	National Research Council
NVQF	-	National Vocational Qualification Framework
PMS	-	Performance Measurement System
ROI	-	Return of Investment
SON	-	Standard Organisation of Nigeria
SPSS	-	Statistical Package for Social Sciences
TOP	-	Theory of Performance
WBDB	-	Work Branch Department Bureau



## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

This chapter discusses on the introduction, which serves as the research background. The research background forms a clear focus of the problem statement, research questions, research objectives, research significance and research scope. Finally, it describes the chapters' outline of the report.

#### **1.2 Research background**

Construction industry in many developing countries are greatly concerned with low level of skilled workers' productivity due to economic, social, physical and psychological related factors influencing the performance of the skilled workers (Naoum, 2016). Low productivity of skilled workers' is one of the most serious task facing the construction industry especially in developing countries such as Malaysia, Indonesia, Singapore, Hong Kong, and other states in South east Asia (Kaming *et al.*, 2010). In today's global economic, skilled workers' productivity is becoming more intense than ever due to the low level of quality performances of the skilled workers in the construction industries in most developing countries (Davenport, 2013). Arshad



and Ab Malik (2015) assert that, productivity improvement can be achieved when construction workers with high skills and knowledge, together with sound physical and mental health perform tasks with efficiency and effectiveness. In most countries, the cost of operatives comprises 30 % to 50 % of the overall projects' cost, and thus, it is regarded as a true reflection of the efficiency of the operation (Kazaz *et al.*, 2008). In addition, since construction is a labour intensive industry, Jarkas (2015) argued that, skilled workers are one of the most productive labour category in the industry, and therefore, construction productivity is mainly dependent upon skilled workers' effort and performance. Alinaitwe *et al.* (2007) stressed that construction industry in sub-Saharan Africa has unique characteristics. To mention few are, building is labour intensive as it is largely in-situ, therefore skilled workers are exposed to extreme of hot and wet weather conditions, poor skilled workers' incentive schemes, and hazardous working environment.

Nigeria's commitment to improving the living standard of its citizens has led to the introduction of a long-term economic programme tagged 'Nigeria vision 20:2020'. The vision consists of a set of objectives and programmes designed to launch the nation into the league of the twenty (20) most developed economies of the world by the year 2020 (Adewale *et al.*, 2014). Almutairi *et al.* (2016) stressed that, a large number of skilled workers' low performance, especially in the construction industry has been identified by several studies as critical factor for the vision 20:2020 to be achieved. Nwachukwu (2008) viewed that, Nigeria has been largely experiencing a remarkable growth in the number, size and complexity of large scale infrastructure projects with a rich heritage and traditional skilled workers. Improvement in skilled workers' performance through various means of motivational factors serve as energising forces that induce and maintain skilled workers toward quality productivity that will result in huge financial savings and more affordable housing with shorter construction periods and economic development (Dalhatu *et al.*, 2012; El-Gohary and Aziz, 2013; Heravi and Eslamdoost, 2015). Mortaheb *et al.* (2007) opined that, higher productivity leads to lower costs, shorter construction periods, better value for money and higher Return of Investment (ROI). Therefore, the issue of improving skilled workers' performance in construction projects is important as it establishes a substantial foundation for efficiency of work and higher productivity.

### 1.3 Problem statement

Nigeria as a developing country with rapid growing population and various housing scheme programmes such as; National Housing Policy of Nigeria, Report of the Vision 2020 National Technical Working Group on Housing, as well as publications from UN-Habitat, Musa *et al.* (2016) assert that, these programmes require the services of skilled workers on construction sites for an efficient and effective projects productivity. In the Nigerian construction industry, skilled workers such as bricklayers, carpenters, painters, electricians, welders, plumbers, plant operators among others, form a large part of the site labour force whose input determine to a great extent, the quality of the industry's products (Akinluyi and Adeleye, 2013). In Nigeria, the common problems of low skilled workers' performance in construction have been traced to unfair wages of workers, poor safety in construction sites, lack of clear-cut career paths, diminishing skilled workers training programmes and delay in schedule of works on sites (Oseghale *et al.*, 2015). On the other hand, contractors are generally not satisfied with the level of construction productivity due to apparent poor performance of skilled workers (Forcada *et al.*, 2013).

At present time, there is a decline in the performance of skilled workforce in construction project sites, whereby the old age method of locally organised apprenticeship scheme is becoming outdated (Awasthi, 2016). The aged and retiring site operatives are not wishing that their children take to their trades, rather, their goals are for their children and wards to become consultants such as project managers, architects, quantity surveyors and engineers (Ireland, 2007). McCausland (2006) observed that, young people seem to deliberately avoid the high-end construction trades in exchange for the lure of promising positions in the society, this consequently has given rise to significantly low number of skilled workers in the construction industry. The majority of nation's youth no longer shows interest in skill acquisition, a case which is not the same as in the developed countries whereas demand for skilled apprenticeship is outstripping the number of training places available in the industry (Robles *et al.*, 2014). Kim *et al.* (2016) also observed that, problems of low wages, absence of a clear-cut career path, and a lack of organised apprenticeship training schemes are evident in the industry that demotivate youths in the developing countries

to show more interest in participating in the labour force. Construction work, as at the present time in Nigeria is labour intensive, unlike in some advanced countries such as; United Kingdom (UK), United States of America (USA) and Australia where a great percentage of site operations have been mechanised thus requiring fewer numbers of operatives on the construction sites (Van Doren, 2008). The low performance of skilled labour affects schedules and costs, which in turn could critically delay projects completion and thereby jeopardise the economic benefits the project is expected to generate (Ireland, 2007). The low performance of skilled labour is one of the most pressing issues today and is already having serious implications for both business and the economy (Windapo, 2016). As self-employment continues to rise, competition is becoming more severe, contract times are shorter, profit margins are smaller and specialisation and fragmentation of various trades is increasing, which ultimately presents problem of finding key skilled workers such as; bricklayers, carpenters, plasterers and electricians (Amusan, 2016).

Despite the efforts by the government in providing housing schemes for its citizens, Adegoke (2012) noted that, there are still cases of low skilled workers' performances which mostly occurs as a result of rework in construction, use of low quality materials, lack of proper supervision, non involvement of ethical standards and benchmarks. Fagbenle *et al.* (2012) added that, poor management, omissions in design specification, inadequate information from clients, and lack of technical measures to transform these specified requirements into objectives and targets lead to low skilled workers' performance in the anaigerian construction industry. Certainly, these weakness result in cost overrun, late delivery in project completion time, and low quality structures with low life span (Olabosipo and Adedamola, 2010). It has also been observed that, most project managers and site supervisors do not understand how to identify the skilled workers' goals and link them with organisational reward in order to improve their performances, as a result, skilled workers getting frustrated and thereby productivity subsequently suffers (Nwachukwu, 2008). According to Ahiakwo (2015), the factors affecting skilled workers' performance in Nigerian construction industry are mainly varied from; shortage of materials and equipment, poor construction due to design errors, inclement weather condition during construction works, late commencement of work on site due to lack of free transportation, and lack supply of modern plants and equipment. Funso *et al.* (2016a) opined that, an unsatisfactory working environment, lack of proper motivation, ineffective training



schemes and poor site management lead to an adverse effect on skilled workers' productivity in the Nigerian industry. In the construction industry, skilled workers are directly responsible for setting out construction work on site, therefore, suitable motivations are necessary in order to maximise their performance toward effective productivity (Ho, 2016). Perhaps, programmes combining elements of both financial and non-financial incentives schemes are those that produce the most consistently satisfactory results, where the result of either component serves as motivational factor toward skilled workers' performance in construction projects (Fagbenle, 2009).

The performance of skilled workers in the construction industry in the past received little attention as a subject of research, whereby most researches focus on general labour productivity. Therefore, the genesis of this research focuses on skilled workers' performance which was driven by observations in the disparity of the skilled workers' low performance as a result of non-implementation of factors militating to the construction productivity. Similarly, there is need to strive towards achieving optimal productivity in the Nigerian construction industry, however, this cannot be attainable unless problems such as; inadequate tools and equipment, lack of training and retraining of skilled workers, poor working condition, lack of motivation and incompetent site management are addressed. Hence, this research will seek to recommend ways to improve skilled workers' performance towards ensuring the overall development of the Nigerian construction industry.

#### **1.4 Research questions**

This research is proposed to answer two questions, which invariably would assist in achieving its objectives. The questions are:

- i. What are the causes of low skilled workers' performance in construction projects in Nigeria?
- ii. How to improve skilled workers' performance in construction projects in Nigeria?

### 1.5 Research objectives

This research is aimed at investigating into improving skilled workers' performance of construction projects in Nigeria. This aim can be achieved through the following objectives:

- i. To identify the causes of low skilled workers' performance in construction projects in Nigeria.
- ii. To recommend ways for improving skilled workers' performance in construction projects in Nigeria.

### 1.6 Research significance

Improving constraints associated with regard to skilled workers' performance in construction project delivery is important to construction industry in the following aspects:

- i. **To Policy**

By identifying the causes and ways of improving associated with skilled workers' performance in construction projects, the government can come up with a good policy and laid down criteria that can ensure skilled workers' performance in projects delivery follows a stated guideline to ensure that quality, cost and time are maintained toward successful projects productivity.

- i. **To economy**

The economy of any nation tends to be more realistic when there is cost, time certainty and quality control. However, the quality and productivity of any completed project determines that, the economic benefit is liable to be achievable. The economy can save

the money that would have been otherwise channelled for maintenance work of projects.

ii. **To contractors**

The research is expected to contribute immensely to the contractors such as the project manager, project engineer, site engineer and site supervisor, toward improving skilled workers' performance in construction projects, which apparently can lead contractors into successful completion of any given project within cost, stated time and quality and that add to contractors' reputation in various ways.

iii. **To skilled workers**

Identifying areas that affects quality in construction would ensure good workmanship and high productivity of any completed project. This would go a long way in preventing building from collapse and safeguard peoples live. It would also ensure that the tax payers, who are the people themselves, get value for their money.

iv. **To academic environment**

The findings and recommendations of this research will open a window, thereby contributing to the academic knowledge and for future research regarding the causes of low skilled workers' performance in construction projects, and the ways to improve it.

## 1.7 **Research scope**

This research focuses on improving skilled workers' performance in construction projects in Borno State, which is located in the north-eastern region of Nigeria. Borno State is one of the fastest growing State in Nigeria which experiences rapid development in terms of construction of public and private projects and it is evident that, the construction projects in the state suffer from many problems and complex



issues especially in terms of skilled workers' performance (Jalam, 2016). In this research, Maiduguri Metropolitan Council (MMC), which is the Capital of Borno State was selected due to significant number of public construction activities that is on-going in various sites within the state capital (Egidario *et al.*, 2016). The geographical location of Maiduguri lies within 11° 50' latitude and 13° 09' longitude and it is situated at altitude of 325 meters above sea level and occupies a land mass of an area of 50,778 square metres (Jimmie *et al.*, 2016). According to Waziri (2016), despite the present rapid increase in population density of about 1.1 million, Maiduguri remains as centre of trade, learning, culture, tourism and history but public constructions projects in the public sector suffer from low quality due to skilled workers' ineffective performance. In this regards, co-operation from project manager, project engineer, site engineer and site supervisor as respondents will be sought to investigate the causes of the skilled workers' low performance in public construction projects within the study area in order to suggest ways of improving it.

## 1.8 Research methodology

Research methodology explains the method used in conducting the research. The steps involve are; formation of problem statement, developing research objectives, literature review, data survey using questionnaire, data analysis, then conclusion and recommendations. This research uses quantitative approach and would be conducted in three stages, as shown in Figure 1.1. The first stage is the process to identify research issues, topic selection, problem statement and research objectives. Second stage is the literature review to find out the previous study related to improving skilled workers' performance in construction projects. The third stage shows the types of data collection to be used in this research, which are literature review and questionnaire survey. The final stage discussed on data analysis process, results and findings based on the survey using questionnaire form, conclusion and recommendations for the research.

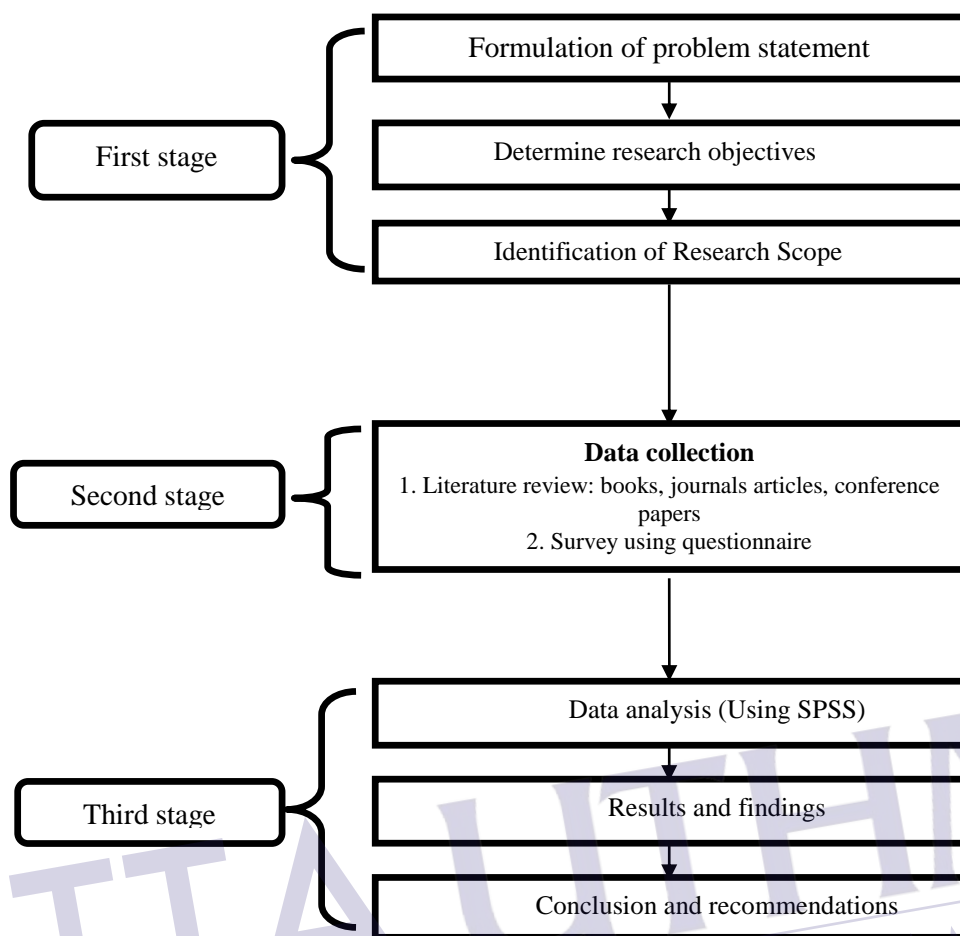


Figure 1.1: Research methodology process

## 1.9 Chapters outline

The research comprises of five (5) main chapters, namely; Introduction, literature review, research methodology, data analysis and discussion, then conclusion and recommendations. Details and explanation to every chapter will be discussed below:

### Chapter 1: Introduction

This section introduces the research topic. It consists of the research background, research problem, research questions, research objectives, research scope, and research significance. Finally, the chapters' outline and summary.



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